VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office
INTRA-AGENCY MEMORANDUM
Engineering Analysis

Permit Writer	Alison Sinclair
Air Permit Manager	James Kyle
Memo To	File
Date	February 8, 2022
Facility Name	Service Center Metals
Registration Number	52948
Application No.	02
Date Fee Paid	December 20, 2021
Amount ($)	$5,669
Distance to SNP (km)	>100 km
Distance to JRF (km)	>100 km
FLM Notification (Y/N)	No
Application Fee Classification	Synthetic Minor

Permit Writer Signature

Permit Manager Signature

I. Introduction

Service Center Metals (SCM) currently operates a secondary aluminum facility located in Prince George, Virginia (Registration #52460). That facility is located at 5850 Quality Way, Prince George. SCM has proposed to construct and operate a similar facility on Chudoba Parkway in Prince George, about 1.25 miles southeast of the current facility. SCM's production process melts aluminum scrap to make finished cast products. On September 29, 2021, SCM received a minor new source review permit to construct and operate the new facility (52948). This current permit action will be to issue a State Operating Permit (SOP) for hydrochloric acid (HCl) emissions from the new facility to keep the facility an area source for HAP.

II. Emission Units/Process Descriptions

The single-chamber melting/holder furnaces (MCF1, MCF2, MCF3) will burn natural gas and will melt "clean" and "other than clean" aluminum scrap. The throughput of flux to these units will be limited by the permit. HCl from these units will be controlled by lime-injected baghouses.

III. Regulatory Review

A. 9VAC5 Chapter 80, Part II, Article 6 – Minor New Source Review

The facility received a minor New Source Review permit on September 29, 2021 to construct and operate an aluminum scrap melting and casting facility. No changes are being proposed for that permit.

B. 9VAC5 Chapter 80, Part II, Article 8 and Article 9 – PSD and Non-Attainment Major New Source Review

Projected emissions from the facility are below the applicability limits for a Major NSR permit. The facility is located in a PSD area but PSD (Article 8) permitting is not triggered. The facility is not located in a non-attainment area so Article 9 permitting is not applicable.

C. 9VAC5 Chapter 80, Part II, Article 5 – State Operating Permit (SOP)

The facility is subject to a MACT standard (see III.F below) that will require limits on flux usage to limit HCl emissions to area source levels in order to be subject to the area source requirements of that MACT. The facility applied for a SOP for those requirements on December 9, 2021, with supplemental information submitted on February 1, 2022. By undergoing public participation, a SOP is used to set federally enforceable limitations on HAP emissions, if HAP limits are needed to avoid applicability as a major HAP source (i.e. 10 tons or more of any individual HAP or 25 tons or more of total HAPs). Therefore, HCl will be limited to 7.7 tons/year (based on flux usage of 563 tons/year). Total HAPs at the facility is expected to be 9.7 tons, which is below major source threshold for HAP.

D. 9VAC5 Chapter 50, Part II, Article 5 – NSPS

The melting/holder furnaces are not subject to NSPS requirements.

E. 9VAC5 Chapter 60, Part II, Article 1 – NESHAPS

This facility is not subject to Chapter 60, Article 1 NESHAPS.

F. 9VAC5 Chapter 60, Part II, Article 2 – MACT

The facility is a secondary aluminum production facility so it is subject to the requirements of MACT, Subpart RRR (40CFR63.1500 *et seq*). The facility chooses to be in compliance with the requirements for an area HAP source. As mentioned in section III.C above, a SOP is needed to provide federal enforceability for this facility with regard to the applicability of the area source requirements of the MACT. The melting/holder furnaces (MCF1, MCF2, MCF3) are considered group 1 furnaces and are subject to the area source requirements in the MACT. SCM's group 1 furnaces, processing "other than clean charge," are subject to the following MACT requirements as an area source:

- §63.1505(i)(3) - the dioxin/furan (D/F) emission standard of 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge.
- §63.1505(k)(3) - Equation 3 used to calculate the emission value for compliance with the emission standard above.
- §63.1506(b), (c), (d), (m), and (p) operating requirements for area sources
- §63.1510 monitoring requirements for area sources [(b) through (k), (n) through (q), and (s) through (w)].
- §63.1511 and 1512(d)(1) – initial testing for D/F using EPA Method 23.
- §63.1515 – (a) send initial notification and (b) compliance status report to EPA and DEQ.
- §63.1516 – submit semiannual excess emissions reports.
- §63.1517 – keep records of information required by the MACT.

G. State Only Enforceable (SOE) Requirements (9VAC5-80-1120 F)
The facility will not be subject to any SOE requirements.

H. 9VAC5 Chapter 40, Part II, Existing Sources - Emission Standards
At a minimum, this facility would be subject to the standards in Chapter 40, Article 18 (Rule 4-18 - Primary and Secondary Metal Operations. The Chapter 40 particulate matter emission limit for the furnaces would be 42 lbs/hr, however the BACT limit in the minor NSR permit issued September 29, 2021 is 6.2 lb/hr. HCl limitation in Rule 4-18 would apply in the absence of MACT Subpart RRR limitations.

IV. Best Available Control Technology Review (BACT)

BACT review applies to NSR permits. Since this is a SOP, BACT does not apply. BACT was included in the minor NSR permit issued for the facility on September 29, 2021 (for NOx and PM). BACT for the three melting/holder & casting furnaces, was the use of three lime-injected baghouses. These lime-injected baghouses will also be included in the SOP, along with a flux throughput limit, to control HCl emissions from the melting/holder & casting furnaces.

V. Summary of Potential Emissions Increase

HCl emissions from the three melting/holder & casting furnaces (MCF1, MCF2, MCF3), as emitted from the lime-injected baghouses, will be 7.7 tons/year.

VI. Dispersion Modeling

A. Criteria Pollutants
Criteria pollutant modeling was not conducted since the facility is not a suspected NAAQS violator.

B. Toxic Pollutants
The facility is subject to MACT standards so a toxics review (and modeling) was not triggered (as per 9VAC5-60-300C).

VII. Boilerplates and Boilerplate Deviations

The latest SOP Skeleton and Generic Boilerplates were used to draft this permit. No deviations were necessary.

VIII. Compliance Demonstration

The facility will need to track flux throughput and keep monitoring records for the baghouses.

IX. Title V Review – 9VAC5 Chapter 80 Part II Article 1 or Article 3

The facility will not be a major source of air pollution so it will not be subject to Article 1 permitting. It is not a power plant and is not subject to Article 3 permitting.

X. Public Participation and Notifications

As per the Public Participation requirements in 9VAC5-80-1020, a 30-day public comment period is needed before the issuance of this permit. The public notice appeared in the Progress-Index newspaper on February 13, 2022 and the public comment period extended for 30 days after that date.

XI. Other Considerations

A. Confidentiality

The facility did not request that any permit information be kept confidential.

B. File Consistency

This permit was drafted consistent with the Minor NSR permit issued on September 29, 2021 for this facility.

XII. Recommendations

Based on the information submitted, it is recommended that this permit be issued.

Attachments

Calculation spreadsheet